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EMBEDDING HIGH QUALITY ASSESSMENT PRACTICES WITH PRE-K-12 CLASSROOM ASSESSMENTS



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Embedding High Quality Assessment Practices with Pre-K-12 Classroom Assessments

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Abstract

Teachers (Pre-K-12) are rarely trained with any depth and prepared to develop high quality assessments or determine if the assessments they are using are of high quality (Stiggins, 2014). Therefore, investing time training and preparing Pre-K-12 teachers to conduct quality assessment of student learning is needed. Regulatory, accreditation, and funding agencies require Pre-K-12 education institutions to demonstrate that their students have mastered course/grade level content outcomes. Assessment practices that best allow students in Pre-K-12 education programs to know they have mastered course/grade level outcomes, in addition to instructional decisions that teachers should make in order for students to learn to what degree they have mastered course/grade level outcomes are addressed. A case study with an international Pre-K-12 United States accredited, independent, non-profit school that offers a rigorous U.S. curriculum to evaluate teacher understanding in implementing high quality assessment practices school highlights the need for teacher professional learning to be implemented and monitored to improve student learning outcomes. Methods and techniques must be taught and used by teachers to support this enhanced vision of assessment. The case study highlights that teachers need opportunities to demonstrate, study, critique, and refine their assessment practices. Formative and summative assessment must both be valued and implemented to promote and implement a high-quality assessment system and have confident and independent learners.

Embedding High Quality Assessment Practices with Pre-K-12 Classroom Assessments

Teachers (Pre-K-12) are rarely trained with any depth and prepared to develop high quality assessments or determine if the assessments they are using are of high quality (Stiggins, 2014). Therefore, investing time training and preparing Pre-K-12 teachers to conduct quality assessment of student learning is needed. Regulatory, accreditation, and funding agencies require Pre-K-12 education institutions to demonstrate that their students have mastered course/grade level content outcomes. Assessment practices that have a positive impact on student learning will be discussed in order to meet the needs of agencies and more importantly, students. Specifically, assessment practices will be addressed that best allow students in Pre-K-12 education programs to know they have mastered course/grade level outcomes, in addition to instructional decisions that teachers should make in order for students to learn to what degree they have mastered course/grade level outcomes. Additionally, a case study with an international Pre-K-12 United States (U.S.) accredited, independent, non-profit school that offers a rigorous U.S. curriculum to evaluate teacher understanding in implementing high quality assessment practices school will highlight the need for teacher professional learning to be implemented and monitored to improve student learning outcomes.

Quality Assessment Practices

Stiggins (2014) defines assessment as the process of measuring student achievement and using results to inform instructional decisions. This definition may offer more promise for promoting learner success than any other instructional practice that instructors have at their disposal (Stiggins, 2014). However, Stiggins (2014) also argues that assessment must be used differently from the way it has been used in the past in order to improve student performance. Improved student performance occurs with high quality instruction however, to be extremely

effective that instruction must work in continuous, close harmony with good assessment. Ideally, instruction and assessment need to occur almost simultaneously, whereas at present, only instruction is continuous with assessment often attached somewhere at the end of it (Stiggins, 2014). Teachers must learn to become competent assessors and use classroom assessment methods to increase student confidence, engage students in managing their own learning, and foster higher levels of achievement than students even thought was possible.

Chappuis, Stiggins, Chappuis, and Arter (2011) describe five keys to quality assessment: purpose, targets, design, communication, and student involvement. Similar to the five keys, Bearman and colleagues (2016) describe an assessment design decision framework which comprises six categories (purpose of assessment, context of assessment, learner outcomes, tasks, feedback processes and interactions) of assessment considerations, which together present a learning-centered approach to assessment design. Teachers need to ensure their course and grade level assessments embed these five keys or six characteristics to ensure their assessments are of quality.

Assessment Purpose

Teachers need to clearly communicate to students, prior to administering an assessment, if an assessment is being used for diagnostic, formative or summative purposes within a course or grade level assessment. Students should be informed what the key assessments are throughout their course/grade levels and how the results from the assessment(s) will be used. In many cases, teachers of courses/grade levels will share an assessment plan with students. The assessment plan will note key course/grade level assessments aligned with course/grade level outcomes. The development of assessment plans involves collaboration amongst teachers. A challenge that comes with assessment plans is having teachers within a grade level or content area collaborate

and agree on course/grade level content outcomes and assessments. This is often a requirement of many accreditation body expectations and potentially challenges teacher autonomy (Andrade, 2011).

Learner Outcomes/Learning Targets

Learner outcomes or learning targets focus on identifying and clearly articulating what students will do in grade levels/courses. Outcomes need to be written so they can be mastered within a given timeframe and resources for a course and/or grade level. Assessments must align to outcomes. Outcomes or targets that are unclear or “fuzzy” make it extremely difficult to write clear assessment items, tasks, and scoring guides. Additionally, each outcome/learning target should be sampled providing the student and instructor with enough information to inform them if each relevant outcome/learning target has been mastered. If an assessment, “is to be instructionally helpful then it needs to suggest to the instructor what comes next in the student’s learning” (Stiggins, 2014, p. 71).

Assessment Design

Bearman et al. (2017) define assessment design as all of the processes that take place to develop specific assessment tasks for a particular course or unit, including the selection, timing, development of rubrics and redevelopment of a task in response to student performance. Stiggins (2014) notes that across the United States teachers are largely unschooled in assessment processes, including design and generally have not taken or passed an examination to certify competence in assessment design.

When designing an assessment there are four methods to choose from including selected response (multiple choice, true/false, matching, fill-in-the-blank), written response (short or extended), performance assessment task, or personal communication. Some of these methods

work better than others to assess learning outcomes/targets. For example, the selected response method can only be used to assess learning outcomes/targets that require students to recall information, provide a conceptual understanding of a topic, or demonstrate procedural knowledge. More complex learning outcomes/targets focused on complex reasoning proficiency or performance skills must be assessed via written response assessments, performance assessment tasks, or personal communication tasks. Chappuis et al. (2011) developed a learning outcome/target and assessment method chart to easily assist assessment designers regarding the best assessment method to use based on learner outcome/target type.

Communication

Feedback is one of the most powerful tools influencing student achievement of learning outcomes (Hattie, 2008). Effective communication related to students' progress in mastering learning target(s) needs to occur on an ongoing basis.

Unless students are able to use feedback to produce improved work, through for example redoing the same assignment, neither they nor those giving feedback will know it has been effective. This is one of the most often forgotten aspects of formative assessment. (Boud, 2000, p. 158)

Characteristics of effective feedback to improve learning includes: (a) referencing the learning target(s), pointing out what the student is doing well on, still needs to improve on, or next steps; (b) providing tangible and transparent feedback related to the learning target(s); (c) providing actionable information (i.e., concrete, specific, and useful); (d) providing information to the student that is easy to understand and does not overwhelm the learner; (e) offering timely feedback, the sooner the better; (g) giving ongoing feedback or formative assessment so the student has opportunities to act on the feedback to achieve the learning target(s); and (g) providing consistent feedback that is stable, accurate, and trustworthy (Wiggins, 2012).

Student Involvement

Students must play a critical role in assessment in order for them to own their learning and instructors must continuously provide these opportunities. Student-involved assessment can motivate productive action on the part of learners (Stiggins, 2014). “Assessment practices should develop learners’ own capacities to evaluate their own work to prepare them for future challenges beyond the support of teachers and courses” (Bearman et al., 2016, p. 547). Chappuis (2009) identified seven strategies for using assessment to promote learning also known as formative assessment strategies. Chappuis’ (2009) seven strategies integrated the findings on the impact of formative assessment by Black and Wiliam (1998) and guidelines presented by Sadler (1989) of what students need to know and be able to do to monitor their work during the actual production of work.

Chappuis (2009) operationalized Sadler’s guidelines during learning in the classroom as:

- Where am I going?
 1. Provide students with a clear understanding and vision of the learning target(s) at the beginning of the learning.
 2. Provide examples or models of student work at different performance levels in order to promote deeper understanding of the learning target(s).
- Where am I now?
 3. Offer students regular access to descriptive feedback aligned to learning target(s) focused on specific qualities of their work and inform them on ways to improve.
 4. Teach students to self-assess so they can monitor their own academic development and set goals by learning target(s) in order to determine what comes next in their learning.

- How can I close the gap?
 5. Design lessons focused on learning target(s) aligned with student needs.
 6. Teach students focused revision of their work.
 7. Teach students to track, communicate, and reflect on their work.

A more detailed description of each strategy follows. The first two strategies assist students knowing where they are going with their learning.

Strategy 1: Provide students with a clear understanding and vision of the learning target(s) at the beginning of the learning.

Sharing a clear understanding of the learning target with students allows them to know where they currently are with the learning and where they are headed. Knowing this information builds student confidence and allows students to feel in control of their learning because they know in advance the requirements of what to demonstrate. Programs that have required standards or student learning outcomes can associate these to learning targets. The standards or student learning outcomes should be shared with students and connected to their instructional activities, readings, resources, and assessment tasks. Students should regularly be engaged in using learning targets throughout a lesson. Feedback of performance of assessments should also be aligned to performance on the standard(s) or student learning outcome(s).

Strategy 2: Provide examples or models of student work at different performance levels in order to promote deeper understanding of the learning target(s).

Models of student work at different performance levels aligned with the learning target(s) provides even further guidance to students of clear expectations of what performance of the learning target needs to look like. Models at different performance levels help clarify misconceptions or errors students might have with a learning target and shows students the

needed steps to master a learning target. Students can be engaged with models noting the differences between performance levels. Using models during instruction assists in building student confidence and understanding prior to completing a task.

Strategies three and four assist students with knowing where they currently are with their learning.

Strategy 3: Offer students regular access to descriptive feedback aligned to learning target(s) focused on specific qualities of their work and inform them on ways to improve.

Students need ongoing feedback as they are working on a learning target. Students need feedback letting them know what aspects of the target they are doing well on (success feedback) and what aspects they still need to work on to improve their performance (next step or intervention feedback).

Assessment activities should leave students better equipped to tackle their next challenge, or minimally, no worse off than they would otherwise be. Part of being equipped for the next task is having sufficient confidence that it can be approached with some chance of success. (Boud, 2000, p. 161)

In the context of learning targets and student performance on tasks, success feedback can highlight and identify what was done correctly, describe a feature of quality present in the work, and/or point out effective use of a strategy or process. The next step or intervention feedback can highlight and identify a needed correction, describe a feature of quality needing work, point out a problem with a strategy or process, offer a reminder, make a specific suggestion, and/or ask a question. Students should have ample opportunity to practice during this time without being penalized by a grade. That the learning goals have been accomplished is a sign to the teacher of when it is appropriate to grade.

Strategy 4: Teach students to self-assess so they can monitor their own academic development, and to set goals by learning target(s) so they can determine what comes next in their learning.

Providing students with time to self-assess and set goals regarding their strengths and identify flaws in their own work is a destination or goal that instructors want their students to reach due to the motivational impact. If students have an understanding of the learning target(s) associated with the task, know what proficiency looks like and how to get there, and received initial risk-free descriptive feedback about their performance on the task, then students are prepared and motivated to generate their own feedback and determine what should come next in their learning. Strong academic self-efficacy may result from this step and it can serve as a very powerful step for struggling learners (Stiggins, 2014).

Strategies five through seven assist students in closing any gaps they may have with their learning. Strategies five and six are often integrated with one another when implemented.

Strategy 5: Design lessons focused on learning target(s).

Common planning practices often include designing and implementing learning activities, administering an assessment, and providing students with a grade. Instead, when designing lessons, the instructor should be implementing a feedback loop and using data from prior assessments (diagnostic, formative, or summative) to assist with planning. Instructional activities need to align with student learning needs. Three things to consider when planning instructional activities include: (a) What are the most common misunderstandings I can anticipate when teaching this lesson, (b) How will I know if those misunderstandings are manifesting, and (c) What actions will I take in response if they do? (Schimmer, 2018). To some degree, the instructor is acting as a coach during this strategy by providing specific guided practice on individual skills and needs to help master broader learning outcomes.

Strategy 6: Teach students focused revision of their work.

Related to the feedback loop discussed in strategy five, students need time to practice learning targets and improve their performance on learning targets. Providing opportunities for students to respond to descriptive feedback allows a student to own their learning and the improvement of their work. Additionally, providing opportunities for students to refine their work to meet learning outcomes builds student confidence.

The challenge is to find a balance between providing a wide range of new learning opportunities for students and enabling them to complete the feedback loop enough times for them to gain the confidence that their achievements are secure and can really demonstrate the desired outcomes. (Boud, 2000, p.158)

Teachers must embed formative assessment into their practice for these learning opportunities to occur.

Strategy 7: Teach students to track, communicate, and reflect on their work.

Similar to strategy four, strategy seven is a destination that instructors want students to reach. Providing opportunities throughout a course or program for students to track, reflect and share their learning brings great purpose to the student related to learning. A focus is placed more on what a student has accomplished related to learning outcomes over time rather than waiting until the end of a course for the instructor to give students a grade. If students know the course or program learning outcomes, have a vision of proficiency on those outcomes, and receive descriptive feedback on their performance related to those outcomes, students most likely will become a key partner with the instructor who is able to communicate how students have performed in the course and/or program.

The seven strategies of assessment for learning are only effective if the instructor wholeheartedly believes that: a) students can master any learning target/outcome that does not change; b) students are motivated to keep trying if they are able to monitor their progress and develop as a learner over time; and c) students who track and communicate about their learning develop confidence, engagement, and achievement (Stiggins, 2014). A learning team develops among the instructor and students when students track and control their own learning. Students develop responsibility in owning their learning allowing teachers to focus more on targeted instruction based on assessment evidence. Additionally, “instructors who have more time for assessment, course improvement, and experimentation may improve student success and retention” (Scott & Danley-Scott, 2015, p. 43).

Although formative assessment is stressed here, summative assessment is also important. Instructors must make periodic judgment during a course and communicate to learners how well they are doing. This is often communicated as a mid-term or final grade. However, it does not have to be limited to these two periods. Summative and formative assessment applications are important, but they are significantly different. Course and grade level teachers should embed both applications by finding a balance between the two. Summative assessment has historically been a norm. Valuing and placing importance on formative assessment needs to become a norm, too.

K-12 Teacher Professional Development and Assessment Literacy

To assist in establishing a supportive assessment literacy environment, evaluating and supporting K-12 teacher assessment practices should occur within institutions. The case study below highlights a K-12 school moving in this direction.

Evaluating K-12 Teacher Assessment Practices: A Case Study

Aligned with the five keys to quality assessment: purpose, targets, design, communication, and student involvement described by Chappuis et al. (2011), pre-post assessment literacy tasks were collected from 26 professional learning community teacher grade level or course teams fall 2017 and spring 2018 at an international Pre-K-12 United States (U.S.) accredited, independent, non-profit school that offers a rigorous U.S. curriculum to evaluate teacher understanding in implementing high quality assessment practices. The pre-post assessment literacy task was conducted to a) provide baseline data to the school leadership regarding K-12 teacher course and grade level assessment practices and; b) assist the school's Office of Professional Learning in developing professional learning experiences for teachers aligned with assessment literacy task strengths and needs.

Assessment Literacy Task Background.

The assessment literacy task included five required criteria and two optional criteria. The five required criteria included content aligned with high quality assessment design (Stiggins, 2014) and formative assessment strategies from Chappuis et al. (2011). The required criteria included a) Standards/learning targets are represented in Atlas (electronic curriculum tool) in the context of a unit of study; b) Unit standards or learning targets are clearly aligned to assessment items/task/checklist/rubric/criteria on a named assessment; c) An appropriate assessment method is used to assess each learning target; d) Guideline/rubrics for high quality design according to *Classroom Assessment for Student Learning (CASL)* text, are used for each assessment method; and e) Each standard/learning target is appropriately sampled on the assessment and reflected in Atlas using the check boxes. Two optional criteria included on the assessment literacy task included: a) Teacher created a student self-assessment/reflection tool for learner outcome/learning target; and b) Teacher created a student goal-setting tool for the task aligned

with learner outcome/learning target. The assessment literacy task was measured using a rubric aligned with the criteria. All teachers had prior professional learning sessions aligned with this content. To assist with measure content validity, the rubric criteria were collaboratively designed with the school’s Subject Area Leadership Team and included four performance levels. The performance levels included 0 = No or Irrelevant Evidence; 1 = Try Again; 2 = Somewhat There; and 3 = On Target. The rubric content aligned with the rubric criteria was also reviewed by this same group. All members of the Subject Area Leadership Team had prior knowledge and training with assessment design and formative assessment strategies.

Case Study Survey Results.

Twenty-six professional learning community teams completed the assessment literacy task Fall 2017 and Spring 2018. All K-12 teachers were assigned to a professional learning community that addressed curriculum, instruction, and assessment content once a week throughout the school year. Professional learning community team sizes ranged from 4 – 8 teachers. Table 1.1. shows the assessment literacy task submission break down by division (elementary, middle school, high school) and Table 1.2 shows the task mean scores by criteria by division and overall for the school for 2017 and 2018.

Table 1.1. *Assessment Literacy Task Completion by Division*

Division	2017	2018
Elementary	10	10
Middle	5	5
High	11	11
Total	26	26

Table 1.2. *Assessment Literacy Task Overall Mean Score by Division*

Criteria		1	2	3	4	5	Optional A	Optional B
<i>Division</i>	<i>Year</i>							
Elementary	2017	1.70	1.65	1.40	2.00	1.50	2.33	1.50
	2018	1.88	1.81	1.50	2.13	1.25	1.50	1.00
Middle	2017	2.40	2.20	2.00	2.00	2.00	2.00	2.00
	2018	1.83	2.83	2.00	3.00	0.00	1.00	1.00
High	2017	1.73	1.09	1.55	1.73	1.95	1.86	1.50
	2018	2.71	1.79	2.86	2.00	1.71	1.40	2.33
Overall	2017	1.78	1.46	1.52	1.81	1.72	2.00	1.57
	2018	1.79	2.00	2.00	2.28	1.02	2.00	1.50

Assessment Literacy Task Required Criteria: Division Results.

The researcher scored all assessment literacy tasks using the task rubric. All submissions were also reviewed by the school Director of the Office of Learning to check for inter-rater reliability using percent agreement for two raters (86%). During 2017, the first criteria related to standards/learning targets are represented in Atlas (electronic curriculum tool) in the context of a unit of study, was the criteria with the highest mean score for the middle school. This same criteria was the second highest mean score for the elementary and high school. The highest mean score criteria for the elementary school was the fourth criteria, guideline/rubrics for high quality design according to CASL text, are used for each assessment method. This was the highest overall mean score for all divisions in 2017 and 2018. The highest mean score criteria for the high school was the fifth criteria, each standard/learning target is appropriately sampled on the assessment AND reflected in Atlas using the check boxes. Criteria two, unit standards or

learning targets are clearly aligned to assessment items/task/checklist/rubric/criteria on a named assessment was the lowest mean score criteria for the high school. Criteria three, an appropriate assessment method is used to assess each learning target, was the lowest mean score criteria for the elementary school. The middle school performed lowest (2.0 mean score) for criteria three, four, and five.

During 2018, the first criteria related to standards/learning targets are represented in Atlas (electronic curriculum tool) in the context of a unit of study, was the criteria with the highest mean score for the high school. This same criterion was the second highest mean score for the elementary and the second lowest mean score for the middle school. The highest mean score criteria for the elementary school was the same in 2018, the fourth criteria, guideline/rubrics for high quality design according to CASL text, are used for each assessment method. The highest mean score criteria for the high school was the third criteria, an appropriate assessment method is used to assess each learning target. All three divisions in 2018 performed lowest on the fifth criteria, each standard/learning target is appropriately sampled on the assessment AND reflected in Atlas using the check boxes.

Assessment Literacy Task Optional Criteria: Division Results.

Professional learning community teams submitted assessment literacy tasks including the optional criteria: a) Teacher created a student self-assessment/reflection tool for learner outcome/learning target; and b) Teacher created a student goal-setting tool for the task aligned with learner outcome/learning target. During 2017, each of the divisions had a higher mean score on optional criteria A. The elementary and middle school declined on both optional criteria from 2017 to 2018. The high school declined only on optional criteria A from 2017 – 2018.

The results of the study show that within each division there is a need to still practice, refine, and improve assessment literacy content including enhancing assessment design embedding formative assessment strategies. Results of the study can be used to help determine and refine future professional learning opportunities related to assessment literacy. Based off of the results, professional learning can be organized by criteria, by content teams, and/or division. No criteria fell at the 3.0 mean rating, highest rating so growth with all criteria is needed across the school. Longitudinal data should also be collected and monitored aligned with the criteria as shown by the results to ensure the criteria are implemented at a consistent “on target” level.

Although the assessment literacy task results provided beneficial information to school leadership regarding teacher assessment practices there are limitations to the study results. Although the Subject Area Leadership Team helped create the rubric criteria and performance descriptors, teachers still need clearer understanding of the rubric language. More models across content areas and grade/levels and courses should be shared with teachers as training tools. The assessment literacy task submissions were also submitted as a group so there are limitations in understanding each individual teacher’s assessment literacy knowledge. Considerations to submit the task individually should be made for the future. The assessment literacy task is currently only submitted twice a year for feedback. The same process should be used for all course and grade level assessments to ensure high quality assessments are shared with students across the school systematically.

Next Steps

Assessment, in general, involves identifying appropriate standards and criteria and making judgments about quality. Boud (2000) argues that this is necessary to lifelong learning as it is to any formal education experience. If assessment can be viewed as essential to lifelong

learning then assessment has to move to the hands of the learners and away from just being owned only by the assessor. Methods and techniques must be taught and used by teachers to support this enhanced vision of assessment. As the case study highlighted from one Pre-K -12 institution, teachers need opportunities to demonstrate, study, critique, and refine their assessment practices.

Additionally, Pre-K – 12 educational institutions must emphasize using student assessment for internal institutional academic improvement. More research should be conducted in this area to see how institutions can support teachers with student assessment. Grunwald and Peterson (2003) reported that teachers are more supportive of an institution's approach to student assessment when there are: a) institution-wide plans, policies, and administrative offices to guide student assessment efforts and methods implemented to monitor and report the various institutional benefits and impacts of assessment; b) task forces, teacher committees, forums and seminars on student assessment, and when more attention is given to using student assessment for educational decisions and promoting teacher interest in teaching and instructional methods; c) opportunities to educate teachers about and involving them with the external influences on student assessment (accreditation, state policy, etc.), providing teachers with professional learning opportunities to learn about student assessment, and distributing evidence of the benefits of student assessment; and d) methods used to increase teacher involvement with classroom student assessment through promoting the benefits and, with caution, using it for teacher retention and promotion decisions.

High quality assessment is essential. If we desire to maximize student learning to demonstrate mastery of student learning outcomes, we must pay greater attention to improving course and program assessment. Formative and summative assessment must both be valued and

implemented to promote and implement a high-quality assessment system and have confident and independent learners.

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